

AMENDMENTS TO THE CLAIMS

Please amend the cited claims as follows, without prejudice or disclaimer to continued examination on the merits:

1. (Currently Amended) A heat curable extruded adhesive laminate system, said system comprising:

a fabric;

an extruded adhesive having an activation temperature of approximately 55°C - 60°C that is a thermoplastic polyurethane with pendent hydroxyl groups, said adhesive comprising a uretdione with an activation temperature in excess of 300°F and a cross-linking enhancer, where said extruded adhesive is coated onto the fabric; and

an extruded thermoplastic polyurethane resin having a Shore A Durometer greater than 88, said thermoplastic resin coated onto the extruded adhesive;

wherein said laminate is a composite that at a subsequent time is assembled into a collapsible structure by application of heat and compression, said structure being hydrolytically stable and substantially inert following assembly; and

wherein the cross-linking enhancer is a compound with at least two hydroxyl groups.

2. (Previously Presented) A heat curable extruded adhesive laminate system, according to claim 1, said system further comprising heating at least a portion of the composite to a temperature from about 260°F to about 350°F in a compression press.

3. (Previously Presented) The heat curable extruded adhesive laminate system, as claimed in claim 1, wherein said structure is a collapsible tank.

4. (Canceled)

5. (Previously Presented) The heat curable extruded adhesive laminate system, as claimed in claim 1, wherein said thermoplastic polyurethane with pendant hydroxyl groups has a medium to a high level of crystallinity.

6. (Previously Presented) The heat curable extruded adhesive laminate system, as claimed in claim 1, wherein the uretdione is comprised of a dimer of a diisocyanate, a multi-uretdione adduct or a combination thereof.

7. (Previously Presented) The heat curable extruded adhesive laminate system, as claimed in claim 6, wherein the uretdione is selected from the group consisting of dimers of toluene diisocyanate (TDI), methylene diisocyanate (MDI), xylene diisocyanate (XDI), isophorone diisocyanate (IPDI), hydrogenated methylene diisocyanate (H₁₂MDI), and hexamethylene diisocyanate (HMDI).

8. (Canceled)

9. (Canceled)

10. (Currently Amended) The heat curable extruded adhesive laminate system, as claimed in claim 1 9, wherein the cross-linking enhancer is selected from the group consisting of: a hydroxyalkylamide; glycols; abitol; butylene glycol; cyclohexanedimethanol; diethylene glycol; dipentaerythritol; dipropylene glycol; glycerine; hexylene glycol; hydrogenated Bisphenol A; methyl 1,2 propanediol; neopentylglycol; propylene glycol; sorbitol; triethylene glycol; trimethylolpropane; tripentaerythritol, alkoxy and hydroxyl alkoxy cellulose, simple sugars like fructose, sucrose, glucose and starches.

11. (Previously Presented) A heat curable extruded adhesive laminate system, according to claim 1, wherein the extruded adhesive with a latent thermally activated curing component is further comprised of a hydrolytic stabilizer.

12. (Previously Presented) The heat curable extruded adhesive laminate system for producing collapsible tanks, as claimed in claim 11, wherein the hydrolytic stabilizer is selected from the group consisting of masterbatches of bis(2,6-di-2-propylphenyl)carbodiimide, polycarbodiimide and epoxidized soy bean oil.

13. (Original) The heat curable extruded adhesive laminate system, as claimed in claim 1, wherein the thermoplastic resin is compounded to include other additives such as reinforcing

fibers, extenders, fillers, antioxidants, UV stabilizers, thermal stabilizers, flame retardants, glass beads, colorants, antimicrobial agents, dyes, pigments, processing aides (i.e. waxes, fluorinated compounds, silicone compounds, surfactants, polymeric processing aides), density modifiers such as phenolic beads, desiccants, buffers, and IR absorbent compounds to facilitate heating (i.e. carbon blacks, graphite, metal oxides).

14. (Original) The heat curable extruded adhesive laminate system, as claimed in claim 1, wherein the said extruded adhesive is further compounded to include other additives such as reinforcing fibers, extenders, antioxidants, UV stabilizers, thermal stabilizers, flame retardants, fillers, glass beads, colorants, antimicrobial agents, dyes, pigments, processing aides (i.e. waxes, fluorinated compounds, silicone compounds, surfactants, polymeric processing aides), density modifiers such as phenolic beads, desiccants, buffers, and IR absorbent compounds to facilitate heating (i.e. carbon blacks, graphite, metal oxides).

15. (Currently Amended) A one pass heat curable extruded adhesive laminate system, said system comprising:

a fabric;

an extruded mixture comprised of a thermoplastic polyurethane resin having a Shore A Durometer greater than 88, a thermoplastic polyurethane adhesive having pendant hydroxyl groups, said adhesive having an activation temperature of approximately 55°C - 60°C and comprising a uretdione with an activation temperature in excess of 300°F and a cross-linking enhancer; wherein said

extruded mixture is coated onto the fabric, thereby forming a one pass heat curable extruded adhesive laminate; where said laminate is a composite that at a subsequent time is assembled into a collapsible structure by application of heat and compression, said structure being hydrolytically stable and substantially inert following assembly; and wherein the cross-linking enhancer is a compound with at least two hydroxyl groups.

16. (Previously Presented) A one pass heat curable extruded adhesive laminate system, according to claim 15, wherein said one pass system further comprising heating at least a portion of the composite to a temperature from about 260°F to about 350°F in a compression press.

17. (Previously Presented) The one pass heat curable extruded adhesive laminate system, as claimed in claim 15, wherein said structure is a collapsible tank.

18. (Canceled)

19. (Previously Presented) The one pass heat curable extruded adhesive laminate system, as claimed in claim 15, wherein said thermoplastic polyurethane with pendant hydroxyl groups has a medium to a high level of crystallinity.

20. (Previously Presented) The one pass heat curable extruded adhesive laminate system, as claimed in claim 19, wherein the uretdione is comprised of a dimer of a diisocyanate, a multi-uretdione adduct or a combination thereof.

21. (Previously Amended) The one pass heat curable extruded adhesive laminate system, as claimed in claim 20, wherein the uretdione is selected from the group consisting of dimers of toluene diisocyanate (TDI), methylene diisocyanate (MDI), xylene diisocyanate (XDI), isophorone diisocyanate (IPDI), hydrogenated methylene diisocyanate (H₁₂MDI), and hexamethylene diisocyanate (HMDI).

22. (Canceled)

23. (Canceled)

24. (Currently Amended) The one pass heat curable extruded adhesive laminate system, as claimed in claim 15 23, wherein the cross-linking enhancer is selected from the group consisting of: a hydroxyalkylamide; glycols; abitol; butylene glycol; cyclohexanedimethanol; diethylene glycol; dipentaerythritol; dipropylene glycol; glycerine; hexylene glycol; hydrogenated Bisphenol A; methyl 1,2 propanediol; neopentylglycol; propylene glycol; sorbitol; triethylene glycol; trimethylolpropane; tripentaerythritol, alkoxy and hydroxyl alkoxy cellulose, simple sugars like fructose, sucrose, glucose and starches.

25. (Previously Presented) A one pass heat curable extruded adhesive laminate system, according to claim 15, wherein the extruded mixture is further comprised of a hydrolytic stabilizer.

26. (Previously Presented) The one pass heat curable extruded adhesive laminate system, as claimed in claim 25, wherein the hydrolytic stabilizer is selected from the group consisting of masterbatches of bis(2,6-di-2-propylphenyl)carbodiimide, polycarbodiimide and epoxidized soy bean oil.

27. (Original) The one pass heat curable extruded adhesive laminate system, as claimed in claim 15, wherein the thermoplastic resin is compounded to include other additives such as reinforcing fibers, fillers, antioxidants, UV stabilizers, thermal stabilizers, flame retardants, glass beads, colorants, antimicrobial agents, dyes, pigments, processing aides (i.e. waxes, fluorinated compounds, silicone compounds, surfactants, polymeric processing aides), density modifiers such as phenolic beads, desiccants, buffers, and IR absorbent compounds to facilitate heating (i.e. carbon blacks, graphite, metal oxides).

28. (Previously Presented) The one pass heat curable extruded adhesive laminate system, as claimed in claim 15, wherein the said extruded mixture is further compounded to include other additives such as reinforcing fibers, fillers, antioxidants, UV stabilizers, thermal stabilizers, flame retardants, glass beads, colorants, antimicrobial agents, dyes, pigments, processing aides (i.e. waxes, fluorinated compounds, silicone compounds, surfactants,

polymeric processing aides), density modifiers such as phenolic beads, desiccants, buffers, and IR absorbent compounds to facilitate heating (i.e. carbon blacks, graphite, metal oxides).

29. (Previously Presented) The heat curable extruded adhesive laminate system, as claimed in claim 10, wherein the hydroxyalkylamide is N,N,N',N'-tetrakis(2-hydroxyethyl)adipamide, or N,N,N',N'-tetrakis(2-hydroxypropyl)adipamide.

30. (Previously Presented) The heat curable extruded adhesive laminate system, as claimed in claim 29, wherein the hydroxyalkylamide is combined with triglycidyl isocyanurate.

31. (Previously Presented) The one pass heat curable extruded adhesive laminate system, as claimed in claim 24, wherein the hydroxyalkylamide is N,N,N',N'-tetrakis(2-hydroxyethyl)adipamide, or N,N,N',N'-tetrakis(2-hydroxypropyl)adipamide.

32. (Previously Presented) The one pass heat curable extruded adhesive laminate system, as claimed in claim 31, wherein the hydroxyalkylamide is combined with triglycidyl isocyanurate.

33. (Canceled)

34. (Canceled)

35. (Currently Amended) A heat curable co-extruded adhesive laminate system, said system comprising:

a fabric;

a co-extruded adhesive having an activation temperature of approximately 55°C - 60°C that is a thermoplastic polyurethane with pendent hydroxyl groups, said adhesive comprising a uretdione with an activation temperature in excess of 300°F and a cross-linking enhancer, where said extruded adhesive is coated onto the fabric;

a co-extruded thermoplastic polyurethane resin having a Shore A Durometer greater than 88, said thermoplastic polyurethane resin being co-extruded onto the co-extruded adhesive;

where said laminate is a composite that at a subsequent time is assembled into a collapsible structure by application of heat and compression, said structure being hydrolytically stable and substantially inert following assembly; and

wherein the cross-linking enhancer is a compound with at least two hydroxyl groups.

36. (Previously Presented) A heat curable co-extruded adhesive laminate system, according to claim 35, wherein said co-extruded system further comprising heating at least a portion of the composite to a temperature from about 260°F to about 350°F in a compression press.

37. (Previously Presented) The heat curable co-extruded adhesive laminate system, as claimed in claim 35, wherein said structure has seams which have a strength that exceeds the minimum acceptable performance for a collapsible water tank, said strength being 25 lbs/in, after being immersed in water and /or fuel at 160° F for six weeks.

38. (Previously Presented) The heat curable adhesive laminate system, as claimed in claim 1, wherein said structure has seams which have a strength that exceeds the minimum acceptable performance for a collapsible water tank, said strength being 25 lbs/in, after being immersed in water and /or fuel at 160° F for six weeks.

39. (Previously Presented) The one pass heat curable extruded adhesive laminate system, as claimed in claim 15, wherein said structure has seams which have a strength that exceeds the minimum acceptable performance for a collapsible water tank, said strength being 25 lbs/in, after being immersed in water and /or fuel at 160° F for six weeks.